

REMARKS

Applicant respectfully requests reconsideration of the present U.S. Patent application as amended herein. Claims 1-9 and 19-48 stand rejected under 35 U.S.C. § 103. Claims 1, 2, 19, 20, 23, 24-30, 34 and 35 have been amended. Claims 21 and 22 have been canceled without prejudice. No claims have been added. Thus, by this amendment, claims 1-9, 19, 20 and 23-48 remain pending.

Objection to the Specification

The specification was objected to for certain informalities. The Specification has been amended to provide an application number for a co-pending application referenced in the Background section. Therefore, Applicant requests that the objection to the specification be withdrawn.

Double Patenting Rejections

Rejections of Claims 1-3, 19, 20, 23-25, 33-36 and 43-48 based on *Parker*

Claims 1-3, 19, 20, 23-25, 33-36 and 43-48 were rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over U.S. Patent No. 6,224,216 issued to Parker et al. (*Parker*). Claims 1, 19, 23 and 34 have been amended to overcome the obviousness-type double patenting rejections. Therefore, Applicant requests that the obviousness-type double patenting rejections of claims 1, 19, 23 and 34 be withdrawn.

Claims 2, 3 and 44-48 depend from claim 1. Claim 20 depends from claim 19. Claims 24, 25 and 33 depend from claim 23. Claims 35, 36 and 43 depend from claim 34. Because dependent claims include the limitations of the claims from which they

depend, Applicant requests that s submit that the obviousness-type double patenting rejections of claims 2, 3, 20, 24, 25, 33, 35, 36 and 43-48 be withdrawn because of the amendments to claims 1, 19, 23 and 34.

Rejections of Claims 21, 22 and 38 based on *Parker* and *Pross*

Claims 21, 22 and 38 were rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over *Parker* in view of U.S. Patent No. 6,396,466 issued to Pross et al. (*Pross*). Claims 21 and 22 have been canceled without prejudice. Therefore, the obviousness-type double patenting rejections of claims 21 and 22 are moot. Claim 34 has been amended to overcome the obviousness-type double patenting rejection. Claim 38 depends from claim 34. Because dependent claims include the limitations of the claims from which they depend, Applicant requests that the obviousness-type double patenting rejections of claim 38 be withdrawn claims because of the amendments to claims 1, 19, 23 and 34.

Claim Rejections - 35 U.S.C. § 112

Claims 20 and 25-33 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. Claim 20 has been amended to encompass the third set of LEDs. Claims 25-30 have been amended to depend from claim 24. Applicant submits that claims 31-33 are not indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. Thus, Applicant submits that the rejections under 35 U.S.C. § 112 have been overcome. Applicant therefore respectfully

requests that the Examiner withdraw the rejection of claims 1, 10 and 19 under 35 U.S.C. § 112.

Claim Rejections - 35 U.S.C. § 103

Rejection of Claims 1-3, 5, 6, 19, 20 and 44-48 based on *Matsui* and *Corrigan*

Claims 1-3, 5, 6, 19, 20 and 44-48 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,281,949 issued to Matsui et al. (*Matsui*) in view of U.S. Patent No. 6,480,634 issued to Corrigan (*Corrigan*). For at least the reasons set forth below, Applicant submits that claims 1-3, 5, 6, 19, 20 and 44-48 are not rendered obvious by *Matsui* in view of *Corrigan*.

Amended claim 1 recites:

a display controller coupled to the power supply and the first and the second switches, the display controller to generate a first and second control signal respectively in accordance with a first and second color frame data, the first control signal to operate on at least the power supply or the first switch to enable the first set of LEDs during the first emission time period, and the second control signal to operate on at least the power supply or the second switch to enable the second set of LEDs during the second emission time period, wherein the light having the first wavelength and the light having the second wavelength can be blended based, at least in part, on durations of the first emission time period and the second emission time period.

Thus, Applicant claims, in part, blending light of different wavelengths based, at least in part, on the lengths of time the light is emitted. Amended claim 19 is a means-plus-function claim, and recites similar limitations. A proper rejection under 35 U.S.C. § 103 requires that a prior art reference, or references when combined, must teach or suggest all of the claim limitations of the rejected claim. See MPEP § 2143.

Matsui discloses a picture display method for displaying a color picture having a gradation in brightness by time-divisional display of a plurality of monochromatic

pictures. See col. 5, lines 11-17. *Matsui* does not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. Thus, *Matsui* fails to teach or suggest at least these limitations of claims 1 and 19.

Applicant agrees with Examiner that *Matsui* also fails to disclose light transmission guides or a means for routing light, as recited in claims 1 and 19. See Office Action, page 6, lines 17-19. However, Examiner contends that *Corrigan* discloses grating light valves (GLVs) used for guiding light, and that it would have been obvious to combine *Corrigan* with *Matsui*. See Office Action, page 6, line 20 – page 7, line 12.

Corrigan discloses a color image projector having red, green and blue lasers that illuminate first, second and third GLVs. See col. 3, line 57 – col. 4, line 3. The GLVs produce red, blue and green linear arrays of pixels that are projected onto a display screen. See col. 4, lines 3-12. However, *Corrigan* does not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. As explained above, *Matsui* does not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. Thus, *Corrigan* does not cure the deficiencies of *Matsui*.

Applicant does not concede that one of ordinary skill in the art would combine *Matsui* and *Corrigan*. However, even if *Matsui* and *Corrigan* were combined, the combination of would fail to teach or suggest all the limitations of claims 1 and 19, since *Corrigan* fails to cure the deficiencies of *Matsui*. Thus, claims 1 and 19 are not rendered

obvious by *Matsui* and *Corrigan* for at least the reasons set forth above. Applicant therefore respectfully requests that the Examiner withdraw the rejection of claims 1 and 19 under 35 U.S.C. § 103.

Claim 2, 3, 5, 6 and 44-48 depend from claim 1. Claim 20 depends from claim 19. Because dependent claims include the limitations of the claims from which they depend, Applicant submits that claims 2, 3, 5, 6, 20 and 44-48 are not rendered obvious by *Matsui* and *Corrigan* for at least the reasons set forth above.

Rejection of Claim 4 based on *Matsui*, *Corrigan* and *Kanayama*

Claim 4 was rejected as being unpatentable over *Matsui* and *Corrigan*, and further in view of U.S. Patent No. 4,897,639 issued to Kanayama (*Kanayama*). For at least the reasons set forth below, Applicant submits that claim 4 is not rendered obvious by *Matsui* and *Corrigan* in view of *Kanayama*.

Kanayama discloses an image forming apparatus having a drive circuit to drive multiple light-emitting diodes. See Abstract; Fig. 3. *Kanayama* discloses adjacent LED arrays that are used to form lines of an image on a single screen (which is not a display device as claimed). See col. 2, line 54 - col. 3, line 24. However, *Kanayama* does not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. As explained above, *Matsui* and *Corrigan* do not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. Thus, *Kanayama* does not cure the deficiencies of *Matsui* and *Corrigan*.

Applicant does not concede that one of ordinary skill in the art would combine *Matsui, Corrigan* and *Kanayama*. However, even if *Matsui, Corrigan* and *Kanayama* were combined, the combination would fail to teach or suggest all the limitations of claim 1, since *Kanayama* fails to cure the deficiencies of *Matsui* and *Corrigan*. Thus, claim 1 is not rendered obvious by *Matsui, Corrigan* and *Kanayama* for at least the reasons set forth above.

Claim 4 depends from claim 1. Because dependent claims include the limitations of the claims from which they depend, Applicant submits that claim 4 is not rendered obvious by *Matsui, Corrigan* and *Kanayama* for at least the reasons set forth above. Applicant therefore respectfully requests that the Examiner withdraw the rejection of claim 4 under 35 U.S.C. § 103.

Rejection of Claims 7-9 based on *Matsui, Corrigan, Reymond and Pross*

Claims 7-9 were rejected as being unpatentable over *Matsui* and *Corrigan*, and further in view of U.S. Patent No. 5,936,599 issued to *Reymond* (*Reymond*) and U.S. Patent No. 6,396,466 issued to *Pross* et al. (*Pross*). For at least the reasons set forth below, Applicant submits that claims 7-9 are not rendered obvious by *Matsui* and *Corrigan* in view of *Reymond* and *Pross*.

Reymond is cited as disclosing a power source and a switch coupled with an LED array. See Office Action, page 10, lines 8-10. Applicant does not concede that Examiner's characterization of *Reymond* is correct. However, even if *Reymond* does disclose a power source and a switch coupled with an LED array, *Reymond* does not disclose that light having a first wavelength and light having a second wavelength can be

blended based, at least in part, on durations of a first emission time period and a second emission time period. As explained above, *Matsui* and *Corrigan* do not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. Therefore, *Reymond* does not cure the deficiencies of *Matsui* and *Corrigan*.

Pross is cited as disclosing a control circuit. See Office Action, page 11, lines 1-5. Applicant does not concede that Examiner's characterization of *Pross* is correct. However, even if *Pross* discloses a control circuit, *Pross* does not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. As explained above, *Matsui*, *Corrigan* and *Reymond* do not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. Therefore, *Pross* does not cure the deficiencies of *Matsui*, *Corrigan* and *Reymond*.

Applicant does not concede that one of ordinary skill in the art would combine *Matsui*, *Corrigan*, *Reymond* and *Pross*. However, even if *Matsui*, *Corrigan*, *Reymond* and *Pross* were combined, the combination would fail to teach or suggest all the limitations of claim 1, since *Reymond* and *Pross* fail to cure the deficiencies of *Matsui* and *Corrigan*.

Claims 7-9 depend from claim 1. Because dependent claims include the limitations of the claims from which they depend, Applicant submits that claims 7-9 are not rendered obvious by *Matsui*, *Corrigan*, *Reymond* and *Pross* for at least the reasons set

forth above. Applicant therefore respectfully requests that the Examiner withdraw the rejections of claims 7-9 under 35 U.S.C. § 103.

Rejection of Claims 21 and 22 based on *Matsui, Corrigan and Pross*

Claims 21 and 22 were rejected as being unpatentable over *Matsui* and *Corrigan*, and further in view of *Pross*. Claims 21 and 22 have been canceled without prejudice. Therefore, the rejections of claims 21 and 22 as being unpatentable over *Matsui* and *Corrigan*, and further in view of *Pross* are moot.

Rejection of Claims 23-25, 27, 33-36 and 43 based on *Matsui, Corrigan and Hunter*

Claims 23-25, 27, 33-36 and 43 were rejected as being unpatentable over *Matsui* and *Corrigan*, and further in view of U.S. Patent No. 5,724,062 issued to *Hunter* (*Hunter*). For at least the reasons set forth below, Applicant submits that claims 23-25, 27, 33-36 and 43 are not rendered obvious by *Matsui* and *Corrigan* in view of *Hunter*.

Claim 23 is a method claim that recites the following:

generating light having a second wavelength from a second LED color channel during a second emission time period in response to the second control signal, wherein the light having the first wavelength and the light having the second wavelength can be blended based, at least in part, on durations of the first emission time period and the second emission time period; ...

Thus, in claim 23, like in claims 1 and 19, Applicant claims, in part, blending light of different wavelengths based, at least in part, on the lengths of time the light is emitted. Claim 34 is another method claim, and recites similar limitations

Hunter is cited as disclosing the use of LEDs in a LCD. See Office Action at page 14. Applicant does not concede that Examiner's characterization of *Hunter* is

correct. However, even if *Hunter* discloses the use of LEDs in a LCD, *Hunter* does not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. As explained above, *Matsui* and *Corrigan* do not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. Therefore, *Hunter* does not cure the deficiencies of *Matsui* and *Corrigan*.

Applicant does not concede that one of ordinary skill in the art would combine *Matsui*, *Corrigan*, and *Hunter*. However, even if *Matsui*, *Corrigan* and *Hunter* were combined, the combination would fail to teach or suggest all the limitations of claims 23 and 34, since *Hunter* fails to cure the deficiencies of *Matsui* and *Corrigan*. Thus, claims 23 and 34 are not rendered obvious by *Matsui*, *Corrigan* and *Hunter* for at least the reasons set forth above. Applicant therefore respectfully requests that the Examiner withdraw the rejection of claims 23 and 34 under 35 U.S.C. § 103.

Claims 24, 25, 27 and 33 depend from claim 23. Claims 35, 36 and 43 depend from claim 34. Because dependent claims include the limitations of the claims from which they depend, Applicant submits that claims 24, 25, 27, 33, 35, 36 and 43 are not rendered obvious by *Matsui*, *Corrigan* and *Hunter* for at least the reasons set forth above.

Rejection of Claims 26 and 37 Based on *Matsui*, *Hunter*, *Corrigan* and *Kanayama*

Claims 26 and 37 were rejected as being unpatentable over *Matsui*, *Hunter* and *Corrigan*, and further in view of *Kanayama*. For at least the reasons set forth below,

Applicant submits that claims 26 and 37 are not rendered obvious by *Matsui, Hunter* and *Corrigan* in view of *Kanayama*.

Matsui, Hunter and *Corrigan* are cited as disclosing red, green and blue LEDs, while *Kanayama* is cited as disclosing yellow, cyan and magenta LEDs. See Office Action at page 16, lines 7-12. Applicant does not concede that Examiner's characterizations of *Matsui, Hunter, Corrigan* and *Kanayama* are correct. However, even if *Matsui, Hunter* and *Corrigan* disclose red, green and blue LEDs, and *Kanayama* discloses yellow, cyan and magenta LEDs, as explained above *Matsui, Hunter, Corrigan* or *Kanayama* does not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. Therefore, though Applicant does not concede that one of ordinary skill in the art would combine *Matsui, Hunter, Corrigan* and *Kanayama*, even if they were combined, the combination would fail to teach or suggest all the limitations of claims 23 and 34. Thus, claims 23 and 34 are not rendered obvious by *Matsui, Hunter, Corrigan* and *Kanayama* for at least the reasons set forth above.

Claim 26 depends from claim 23. Claim 37 depends from claim 34. Because dependent claims include the limitations of the claims from which they depend, Applicant submits that claims 26 and 37 are not rendered obvious by *Matsui, Hunter, Corrigan* and *Kanayama* for at least the reasons set forth above. Applicant therefore respectfully requests that the Examiner withdraw the rejection of claims 26 and 37 under 35 U.S.C. § 103.

Rejection of Claim 28 based on *Matsui, Hunter, Corrigan* and *Reymond*

Claim 28 was rejected as being unpatentable over *Matsui, Hunter* and *Corrigan*, and further in view of *Reymond*. For at least the reasons set forth below, Applicant submits that claim 28 is not rendered obvious by *Matsui, Hunter* and *Corrigan* in view of *Reymond*.

Reymond is cited as disclosing a power source and a switch coupled with an LED array. See Office Action, page 17, lines 5-11. Applicant does not concede that Examiner's characterization of *Reymond* is correct. However, even if *Reymond* does disclose a power source and a switch coupled with an LED array, as explained above, *Reymond*, like *Matsui, Hunter* and *Corrigan*, does not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. Therefore, though Applicant does not concede that one of ordinary skill in the art would combine *Matsui, Hunter, Corrigan* and *Reymond*, even if they were combined, the combination would fail to teach or suggest all the limitations of claim 23. Thus, claim 23 is not rendered obvious by *Matsui, Hunter, Corrigan* and *Reymond* for at least the reasons set forth above.

Claim 28 depends from claim 23. Because dependent claims include the limitations of the claims from which they depend, Applicant submits that claim 28 is not rendered obvious by *Matsui, Hunter, Corrigan* and *Reymond* for at least the reasons set forth above. Applicant therefore respectfully requests that the Examiner withdraw the rejection of claim 28 under 35 U.S.C. § 103.

Rejections of Claim 29-31 and 38-42 based on *Matsui, Hunter, Corrigan* and *Pross*

Claims 29-31 and 38-42 were rejected as being unpatentable over *Matsui, Hunter* and *Corrigan*, and further in view of *Pross*. For at least the reasons set forth below, Applicant submits that claims 29-31 and 38-42 are not rendered obvious by *Matsui*, *Hunter* and *Corrigan* in view of *Pross*.

Examiner's reasons for citing *Matsui, Hunter, Corrigan* and *Pross* in connection with claims 29-31 and 38-42 are set forth at page 18 of the Office Action. Applicant does not concede that Examiner's characterizations of *Matsui, Hunter, Corrigan* and *Pross* with regard to claims 29-31 and 38-42 are correct. However, even if Examiner's characterizations are correct, as explained above, *Matsui, Hunter, Corrigan* or *Pross* does not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. Therefore, though Applicant does not concede that one of ordinary skill in the art would combine *Matsui, Hunter, Corrigan* and *Pross*, even if they were combined, the combination would fail to teach or suggest all the limitations of claims 23 and 34. Thus, claims 23 and 34 are not rendered obvious by *Matsui, Hunter, Corrigan* and *Pross* for at least the reasons set forth above.

Claims 29-31 depend from claim 23. Claims 38-42 depend from claim 34. Because dependent claims include the limitations of the claims from which they depend, Applicant submits that claims 29-31 and 38-42 are not rendered obvious by *Matsui, Hunter, Corrigan* and *Pross* for at least the reasons set forth above. Applicant therefore respectfully requests that the Examiner withdraw the rejection of claims 29-31 and 38-42 under 35 U.S.C. § 103.

Rejection of Claim 32 based on Matsui, Hunter, Corrigan, Reymond and Pross

Claim 32 was rejected as being unpatentable over U.S. in view of *Matsui, Hunter, Corrigan, Reymond* in view of *Pross*. For at least the reasons set forth below, Applicant submits that claim 32 is not rendered obvious by *Hunter, Kanayama* in view of *Pross*.

Pross is cited as disclosing a control circuit. See Office Action, page 20, lines 7-11. Applicant does not concede that Examiner's characterization of *Pross* is correct. However, even if *Reymond* discloses a control circuit, as explained above, *Pross*, like *Matsui, Hunter Corrigan* and *Reymond*, does not disclose that light having a first wavelength and light having a second wavelength can be blended based, at least in part, on durations of a first emission time period and a second emission time period. Therefore, though Applicant does not concede that one of ordinary skill in the art would combine *Matsui, Hunter, Corrigan, Reymond* and *Pross*, even if they were combined, the combination would fail to teach or suggest all the limitations of claim 23. Thus, claim 23 is not rendered obvious by *Matsui, Hunter, Corrigan, Reymond* and *Pross* for at least the reasons set forth above.

Claim 32 depends from claim 23. Because dependent claims include the limitations of the claims from which they depend, Applicant submits that claim 32 is not rendered obvious by *Matsui, Hunter, Corrigan, Reymond* and *Hunter* for at least the reasons set forth above. Applicant therefore respectfully requests that the Examiner withdraw the rejection of claim 32 under 35 U.S.C. § 103.

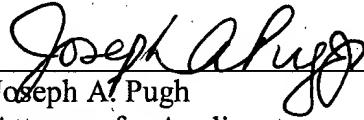
CONCLUSION

For at least the foregoing reasons, Applicant submits that the rejections have been overcome. Therefore, claims 1-9, 19, 20 and 23-48 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application.

Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
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